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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BUNNER, BRIDGET E	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/028,410	DUBAQUIE ET AL.	
	Examiner	Art Unit	
	Bridget E. Bunner	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *8-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 15 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-16* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/2/04; 6/16/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

The Request for Continued Examination (RCE) filed on 16 June 2004 under 37 CFR 1.114 based on parent Application No. 10/028,410 is acceptable and an RCE has been established. An action on the RCE follows.

Status of Application, Amendments and/or Claims

The amendment of 16 June 2004 has been entered in full. Claims 1 and 3 are amended and claims 15-16 are added.

Claims 8-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 25 April 2003.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7 and 15-16 are under consideration in the instant application.

Withdrawn Objections and/or Rejections

1. The rejection to claims 1-7 under 35 U.S.C. § 112, second paragraph, as set forth at pg 7-8 of the previous Office Action (17 February 2004) is *withdrawn* in view of the amended claims (16 June 2004).

Information Disclosure Statement

2. It is noted to Applicant that the Examiner has considered the Information Disclosure Statements submitted on 16 June 2004 and 02 July 2004. The Powell et al. reference listed on

the IDS of 02 July 2004 is crossed off because it was previously listed on the IDS of 11 April 2002 and has been considered by the Examiner.

Claim Objections

3. Claim 5 is objected to because of the following informalities: There is a word missing after the term "sulfonyl-containing" in lines 2-3. There is also a word missing after the term "sulfonamide-containing" in line 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112, first paragraph

4. Claims 1-7 and 15-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of treating reduced renal function, a method of enhancing renal function, and a method of treating type II diabetes in a mammal comprising administering to the mammal an effective amount of an Insulin-like Growth Factor-I (IGF-I) variant wherein the amino acid residue at position 16, 25, or 49 or the amino acid residues at positions 3 and 49 of native-sequence human IGF-I are replaced with an alanine, a glycine, or a serine residue, *does not* reasonably provide enablement for a method for treating a disorder characterized by dysregulation of the Growth Hormone/Insulin-like Growth Factor (GH/IGF) axis in a mammal or treating a renal disorder in a mammal comprising administering to the mammal an effective amount of an Insulin-like Growth Factor-I (IGF-I) variant wherein the amino acid residue at position 16, 25, or 49 or the amino acid residues at positions 3 and 49 of native-sequence human IGF-I are replaced with an alanine, a glycine, or a serine residue. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The basis for this rejection is set forth in the total lack of enablement rejection under 35 U.S.C. § 112, 1st paragraph for claims 1-7 at pg 3-6 of the previous Office Action (18 July 2003).

The claims are directed to a method for treating a disorder characterized by dysregulation of the growth hormone/insulin-like growth factor (GH/IGF) axis in a mammal comprising administering to the mammal an effective amount of an IGF-I variant wherein the amino acid residue at position 16, 25, or 49 or the amino acid residues at positions 3 and 49 of native-sequence human IGF-I are replaced with an alanine, a glycine, or serine residue. The claims also recite numerous disorders, including renal disorders. The claims recite further administering to the mammal an effective amount of a renally-active peptide, sulfonyl-containing, sulfonamide-containing, angiotensin-converting enzyme inhibitor, or antibody molecule that promotes reabsorption or retention of electrolytes. The claims recite that the mammal is a human and wherein the amino acid residues at positions 3 and 49 of native sequence human IGF-1 are replaced with alanine residues.

Applicant's arguments filed 16 June 2004, as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons.

(i) Applicant asserts that the amount of disclosure required to be supplied by an enabling specification has been discussed and defined in court decisions (In re Wright, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993); Amgen Inc. v. Chugai Pharms. Co., 927 F.2d 1200, 1212, 18 USPQ2d 1016, 1026 (Fed. Cir. 1991); In re Vaeck, 20 USPQ2d 1438 (Fed. Cir. 1991); Enzo Biochem, Inc. v. Calgene, Inc. 188 F.3d 1362, 1371 (Fed. Cir. 1999)). Applicant argues that the initial burden is on the Patent Office to provide a reasonable explanation of why the specification does not enable the scope of the protection claimed. Applicant asserts that the

PTO has not met its burden. Applicant contends that the PTO has not identified specific reasons why the IGF-I compounds of the present invention are not enabled. Applicant states that patent office merely indicates that the results of the method are unpredictable and complex when combined with the step of administering the claimed IGF-I variant to treat the clinical manifestations of any disorder characterized by dysregulation of the GH/IGF-I axis. Applicant submits that the specification defines disorders characterized by dysregulation of the GH/IGF axis (pg 11-12). Applicant argues that one skilled in the art based on the disclosure of the specification would understand what is meant by the phrase "disorders characterized by dysregulation of the GH/IGF axis" that make it possible to treat such clinical manifestations by the IGF-I variants.

Applicant's arguments have been fully considered but are not found to be persuasive. As supported by the above-cited court decisions, a specification may be enabling even though some experimentation is necessary, but the amount of experimentation, however, must not be unduly extensive. According to MPEP § 2164.06, "the guidance and ease in carrying out an assay to achieve the claimed objectives may be an issue to be considered in determining the quantity of experimentation needed". Additionally, as was found in Ex parte Hitzeman, 9 USPQ2d 1821 (BPAI 1987), a single embodiment may provide broad enablement in cases involving predictable factors such as mechanical or electrical elements, but more will be required in cases that involve unpredictable factors such as most chemical reactions and physiological activity. See also In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970); Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 927 F.2d 1200, 1212, 18 USPQ2d 1016, 1026 (Fed. Cir.), cert. denied, 502 U.S. 856 (1991). The present invention is unpredictable and complex wherein one skilled in

the art may not necessarily treat the clinical manifestations of a disorder characterized by dysregulation of the GH/IGF axis by administration of an IGF-I variant.

Contrary to Applicant's assertion, the Examiner has set forth specific evidence and sound scientific reasoning to indicate that making and/or practicing the subject matter encompassed by the claims would have required undue experimentation. The Examiner set forth a reasonable explanation of why the scope of protection provided by the claims is not adequately enabled by the specification's description of the invention (pg 2-7 of the Action of 17 February 2004; pg 3-6 of the Action of 18 July 2003). Specifically, proper analysis of the Wands factors was provided in the previous Office Actions. Due to the large quantity of experimentation necessary to treat all possible disorders characterized by dysregulation of the GH/IGF axis by administration of an IGF-I variant and to determine what effect an "effective amount" of an IGF-I variant has, the lack of direction/guidance presented in the specification regarding the same, the absence of working examples directed to the same, the complex nature of the invention, and the unpredictability of the effects of administration of an IGF-I variant for all disorders characterized by dysregulation of the GH/IGF axis, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope. Since the PTO met the initial burden of setting forth a reasonable explanation of why the claims are not adequately enabled, the burden shifts to Appellant to provide suitable evidence to indicate that the specification is enabling (see *In re Wright).*

As noted in the previous Office Actions, the phrase "disorder characterized by dysregulation of the GH/IGF axis" in the claims is interpreted by the Examiner to be broad, in that it encompasses any and all diseases involved in the regulation of anabolic and metabolic

homeostasis (specification, pg 11, lines 23-25). Additionally, the specification discloses that "such disorders are characterized by defects in growth, physiology, and/or glycemic control and those with clinical manifestations of either IGF excess or deficiency and/or GH resistance and/or deficiency, the latter being manifested by reduced levels of IGFBP-3 and/or increased levels of IGFBP-I . Examples include such disorders as hyperglycemic disorders, renal disorders, congestive heart failure, hepatic failure, poor nutrition, Turner's Syndrome, Down's Syndrome, a wasting syndrome involving a decrease in protein synthesis such as AIDS wasting, and catabolic states characterized by increased IGFBP levels (such as IGFBP-I levels) relative to such levels in a mammal without such disorder, such as a critical illness, a disorder involving a decrease in nitrogen balance, and protein catabolism caused by glucocorticoid excess" (pg 11, lines 23-35). The Examiner has also broadly interpreted "renal disorder" in claims 3, 5, and 15-16, wherein the term encompasses any renal dysfunction disease (such as acute tubular necrosis, acute renal failure, renal hypertension, renal tumors, etc.) However, the numerous GH/IGF dysregulation diseases and disorders and renal disorders encompassed by the claims have different pathophysiologies. For example, Down's syndrome is the most frequent form of mental retardation caused by a triplicate state (trisomy) of all or a critical portion of chromosome 21. A few of the major characteristics of Down's syndrome include mental retardation, ocular anomalies, skeletal anomalies, congenital defects (see Appendix A in the Office Action of 18 July 2003; http://www.emedicine.com/derm/topic687.htm#section~clinical). Congestive heart failure is a condition in which the heart can't pump enough blood to the body's organs. Congestive heart failure is an imbalance in starling forces or an imbalance in the degree of end-diastolic fiber stretch proportional to the systolic mechanical work expended in a contraction (see

Appendix B in the Office Action of 18 July 2003; http://www.emedicine.com/emerg/topic108.htm). Additionally, one type of renal disorder, acute renal failure, is the rapid breakdown of renal function that occurs when high levels of uremic toxins accumulate in the blood. Acute renal failure occurs when the kidneys are unable to excrete the daily load of toxins in the urine (Singri et al. J Am Med Assoc 289(6): 747-751, 2003; pg 747). Renal hypertension is high blood pressure caused by the narrowing of the arteries that carry blood to the kidneys. A reduced blood flow to the kidneys leads to excessive release of the hormone, renin, which increases blood pressure (see Appendix C attached to the instant Office Action; http://www.nlm.nih.gov/medlineplus/ency/article/000204.htm). Therefore, one skilled in the art would not understand what is meant by the phrases "diseases characterized by dysregulation of the GH/IGF axis" and "renal disorder" recited in the claims since many diverse diseases and disorders are encompassed. One skilled in the art would also not be able to predict from the of the instant specification that an IGF-I variant recited in the claims would be able to treat all possible renal disorders and GH/IGF dysregulation disorders and diseases, such as acute renal failure, Down's syndrome, and congestive heart failure, because these diseases have different pathophysiologies. Undue experimentation would be required by the skilled artisan to identify individuals with a renal disorder or a disorder characterized by dysregulation of the GH/IGF axis, such as by measuring IGFBP-1 and IGFBP-3 levels (specification, pg 12, lines 4-12). Such experimentation is considered undue.

Additionally, claims 1-7 and 15-16 do not specify what specific effect the "effective amount" of an IGF-I variant has. For example, a large quantity of experimentation would be required by one skill in the art to determine the effect/outcome/endpoint indicating that a

particular disorder had been treated by the IGF-I variant. For instance, what does the skilled artisan measure as an indication that a disease has been treated in a patient? Does the effect/outcome/endpoint measured vary according to the disease that is being treated?

The specification of the instant application also outlines prophetic procedures for the treatment of renal disorder and disorders characterized by dysregulation of the GH/IGF axis (pg 21-26). However, this is not adequate guidance, but is merely an invitation to the artisan to use the current invention as a starting point for further experimentation. The claimed method may not necessarily treat the clinical manifestations of all possible renal disorders or disorders characterized by dysregulation of the GH/IGF axis. The skilled artisan must resort to trial and error experimentation to determine the optimal quantity of IGF-I variant to be administered, as well the duration of treatment and route of administration for each possible disorder. Such trial and error experimentation is considered undue.

(iii) Applicant asserts that the specification describes the IGF-I variants and shows that the variants bind IGFBP-1 very weakly while retaining high affinity binding of IGFBP-3 (pg 27-42). Applicant states that Example 2 shows that the variant F49A and E3A.F49A double mutant accumulate at higher levels in the kidneys of rats compared to wild-type IGF-I. Applicant indicates that the specification teaches this would be beneficial for renal failure. Additionally, Applicant contends that the specification provides a significant amount of disclosure describing how to practice the invention (pg 21-26).

Applicant's arguments have been fully considered but are not found to be persuasive. As mentioned above, the phrases "disorder characterized by dysregulation of the GH/IGF axis" and

"renal disorder" in the claims are interpreted by the Examiner to be broad, in that they encompass any and all diseases involved in the regulation of anabolic and metabolic homeostasis or renal dysfunction. The specification of the instant application does not teach treating all possible renal disorders or disorders characterized by dysregulation of the GH/IGF axis in a mammal by administration of any IGF-I variant. Undue experimentation would be required of the skilled artisan to determine the optimal quantity, duration, and route of administration of an IGF-I variant wherein the amino acid residue at position 16, 25, or 49 or the amino acid residues at positions 3 and 49 of native-sequence human IGF-I are replaced with an alanine, a glycine, or serine residue. Examples 1 and 2 of the instant specification (pg 27-42) only characterize the binding affinities and receptor activation capabilities of the IGF-I variants. These experiments are not adequate guidance, but are merely an invitation for the artisan to use the current invention as a starting point for further experimentation. According to MPEP § 2164.06, "the guidance and ease in carrying out an assay to achieve the claimed objectives may be an issue to be considered in determining the quantity of experimentation needed".

The specification also outlines prophetic procedures for treatment of renal disorders and disorders characterized by dysregulation of the GH/IGF axis at pg 21-26. However, this is not adequate guidance, but again, is merely an invitation to the artisan to use the current invention as a starting point for further experimentation. The claimed method may not necessarily treat the clinical manifestations of a renal disorder or a disorder characterized by dysregulation of the GH/IGF axis. The skilled artisan must resort to trial and error experimentation and such trial and error experimentation is considered undue. Although the claimed method may utilize routine administration and agent formulation techniques, the results of the method are unpredictable and

complex when combined with the step of administering any IGF-I variant to treat the clinical manifestations of any renal disorder or any disorder characterized by dysregulation of the GH/IGF axis.

(iv) Applicant contends that the patent office argues that Applicant has not shown that all possible disorders characterized by dysregulation of the GH/IGF-I axis can be treated by the IGF-I variants. Applicant indicates that the courts have held that "proof of an alleged pharmaceutical property for a compound by statistically significant tests with standard experimental models is sufficient to establish utility" (In re Brana 51 F.3d 1560, 34 USPQ2d 1436 (Fed. Cir. 1995) citing In re Krimmel 292 F2d 948, 953, 130 USPQ 215, 219 (CCPA 1961). Applicant asserts that the variants of the instant specification possess biological activity with reduced binding for IGFBP-I. Applicant states that it was known in the art that wild-type IGF-I can be used to treat disorders characterized by dysregulation of the GH/IGF-I axis. Applicant concludes that it is reasonable that the variants of the present invention can be used to treat disorders characterized by dysregulation of the GH/IGF-I axis.

Applicant's arguments have been considered but are not found to be persuasive. Specifically, a specification may be enabling even though some experimentation is necessary, but the amount of experimentation, however, must not be unduly extensive. The experiments in the instant specification are not adequate guidance, but are merely an invitation for the artisan to use the current invention as a starting point for further experimentation. It is noted that the utility of the IGF-I variants recited in the claims has not been questioned by the Examiner. Rather, the claims have been rejected under 35 U.S.C. § 112, first paragraph (scope of

enablement) since the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Examples 1 and 2 of the instant specification (pg 27-42) only characterize the binding affinities and receptor activation capabilities of the IGF-I variants. Example 3 teaches the administration of IGF-I to patients with diabetes and measurement of the concentrations of IGF-I, IGF-II, and IGFBP-3 (pg 42). These experiments are not adequate guidance, but are merely an invitation for the artisan to use the current invention as a starting point for further experimentation. There are no methods or working examples in the specification that indicate the pharmaceutical properties of the IGF-I variants in any experimental models for disorders characterized by dysregulation of the GH/IGF axis. The specification only outlines prophetic procedures for treatment of renal disorders and disorders characterized by dysregulation of the GH/IGF axis at pg 21-26. However, this is not adequate guidance, but again, is merely an invitation to the artisan to use the current invention as a starting point for further experimentation. According to MPEP § 2164.06, "the guidance and ease in carrying out an assay to achieve the claimed objectives may be an issue to be considered in determining the quantity of experimentation needed".

Although Applicant states that it was known in the art that wild-type IGF-I can be used to treat disorders characterized by dysregulation of the GH/IGF-I axis, Applicant has only provided evidence that IGF-I is used to treat renal dysplasias, renal hypoplasias, chronic renal failure, AIDS associated cachexia, and type II diabetes (US Patents 5,565,428 and 5,741,776). The treatment of disorders with reduced renal function, AIDS associated cachexia, and type II diabetes with IGF-I is not adequate evidence that IGF-I is utilized to treat an entire genus of

renal disorders and disorders characterized by dysregulation of the GH/IGF axis in a mammal. The phrases "disorder characterized by dysregulation of the GH/IGF axis" and "renal disorder" in the claims are interpreted by the Examiner to be broad, in that it encompasses any and all diseases involved in the regulation of anabolic and metabolic homeostasis or renal dysfunction (specification, pg 11, lines 23-25; pg 12, lines 33-35 and pg 13, lines 1-14). Examples include such disorders as hyperglycemic disorders, renal disorders, congestive heart failure, hepatic failure, poor nutrition, Turner's Syndrome, Down's Syndrome, a wasting syndrome involving a decrease in protein synthesis such as AIDS wasting, and catabolic states characterized by increased IGFBP levels (such as IGFBP-I levels) relative to such levels in a mammal without such disorder, such as a critical illness, a disorder involving a decrease in nitrogen balance, and protein catabolism caused by glucocorticoid excess" (specification pg 11, lines 23-35). As discussed in part (ii) above, one skilled in the art would not be able to predict from the of the instant specification or US Patents 5,565,428 ('428) and 5,741,776 ('776) that an IGF-I variant recited in the claims would be able to treat all possible renal disorders or GH/IGF dysregulation disorders and diseases, such as Down's syndrome, congestive heart failure, acute renal failure, and renal hypertension, among others, because these diseases have different pathophysiologies. Undue experimentation would also be required by the skilled artisan to identify individuals with a renal disorder or with a disorder characterized by dysregulation of the GH/IGF axis, such as by measuring IGFBP-1 and IGFBP-3 levels (specification, pg 12, lines 4-12). Such experimentation is considered undue. However, in view of the '428 and '776 patents wherein wild-type IGF-I is demonstrated to treat chronic renal failure, AIDS associated cachexia, and type II diabetes, the instant specification is found to be enabling for a method of treating reduced

renal function, a method of enhancing renal function, and a method of treating type II diabetes in a mammal comprising administering to the mammal an effective amount of an Insulin-like Growth Factor-I (IGF-I) variant wherein the amino acid residue at position 16, 25, or 49 or the amino acid residues at positions 3 and 49 of native-sequence human IGF-I are replaced with an alanine, a glycine, or a serine residue.

Proper analysis of the Wands factors was provided in the previous Office Action. Due to the large quantity of experimentation necessary to treat all possible renal disorders and all possible disorders characterized by dysregulation of the GH/IGF axis by administration of an IGF-I variant and to determine what effect an "effective amount" of an IGF-I variant has, the lack of direction/guidance presented in the specification regarding the same, the absence of working examples directed to the same, the complex nature of the invention, and the unpredictability of the effects of administration of an IGF-I variant for all renal disorder and all disorders characterized by dysregulation of the GH/IGF axis (see discussion), undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

5. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 5 is directed to the method of treating a renal disorder of claim 3 further comprising administering to the mammal an effective amount of a renal-active peptide, sulfonyl-

containing, sulfonamide-containing, angiotension-converting enzyme inhibitor, or an antibody molecule that promotes reabsorption or retention of electrolytes.

The specification only discloses that "combination therapy with the peptide herein and one or more other appropriate reagents that increase total IGF in the blood or enhance the effect of the peptide is also part of this invention. These reagents generally allow the peptide herein to release the generated IGF. For example, it is desirable to administer in conjunction with the peptide other active molecules...In addition, the peptide is appropriately administered coupled to a receptor or antibody or antibody fragment for administration" (pg 25, lines 4-10). However, the specification does not teach any specific antibody molecule that promotes reabsorption or retention of electrolytes. The brief general description of an antibody molecule in the specification is not adequate written description of an entire genus of antibodies that promote reabsorption or retention of electrolytes.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention.* The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed"* (See page 1117). The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed" (See *Vas-Cath* at page 1116).

The skilled artisan cannot envision the antibody molecule of the encompassed methods, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method. Adequate written description requires more than a mere statement that it is part of the invention. The antibody molecule itself is required. See

Fiers v. Revel, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class.

Therefore, only a specific antibody that promotes reabsorption or retention of electrolytes, but not the full breadth of the claim meets the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Conclusion

No claims are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bridget E. Bunner whose telephone number is (571) 272-0881. The examiner can normally be reached on 8:30-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BEB
Art Unit 1647
10 August 2004

Bridget E. Bunner